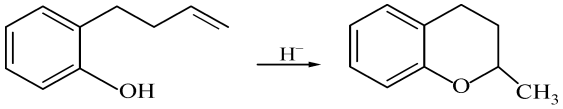
Date Planned : __ / __ / __	Daily Tutorial Sheet-4	Expected Duration : 45 Min
Actual Date of Attempt : __ / __ / __	JEE Advanced (Archive)	Exact Duration :_____

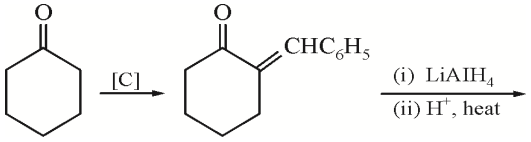
45. Write the intermediate steps for each of the following reactions **(1998)**

(i) $C_6H_5CH(OH)C \equiv CH \xrightarrow{H_3O^+} C_6H_5CH=CHCHO$

(ii)



46. Complete the following reaction with appropriate structure of products/reagents. **(1998)**

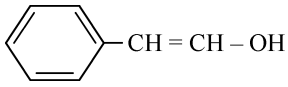


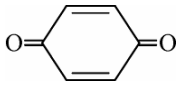
47. An aldehyde $A(C_{11}H_8O)$, which does not undergo self aldol condensation, gives benzaldehyde and two moles of B on ozonolysis. Compound B, on oxidation with silver ion gives oxalic acid. Identify the compounds A and B. **(1998)**

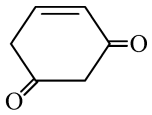
48. Which of the following will react with water ? **(1998)**

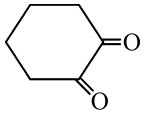
(A) $CHCl_3$ **(B)** Cl_3CCHO **(C)** CCl_4 **(D)** $ClCH_2CH_2Cl$

***49.** Tautomerism is exhibited by : **(1998)**

(A) 

(B) 

(C) 

(D) 

***50.** A new carbon-carbon bond formation is possible in : **(1998)**

(A) Cannizzaro's reaction **(B)** Friedel-Crafts' reaction

(C) Clemmensen's reduction **(D)** Reimer-Tiemann reaction

***51.** Which of the following will undergo aldol condensation ? **(1998)**

(A) Acetaldehyde **(B)** Propanaldehyde

(C) Benzaldehyde **(D)** Trideutero acetaldehyde

***52.** Among the following compounds, which will react with acetone to give a product containing $\diagdown C = N - ?$ **(1998)**

(A) $C_6H_5NH_2$ **(B)** $(CH_3)_3N$ **(C)** $C_6H_5NHC_6H_5$ **(D)** $C_6H_5NHNH_2$

53. The enol form of acetone, after treatment with D_2O, gives : **(1999)**

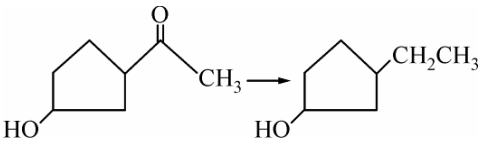
(A) $H_3C - \overset{\overset{OD}{|}}{C} = CH_2$ **(B)** $D_3C - \overset{\overset{O}{\|}}{C} - CD_3$

(C) $H_2C = \overset{\overset{OH}{|}}{C} - CH_2D$ **(D)** $D_2C = \overset{\overset{OD}{|}}{C} - CD_3$

54. (a) Compound $A(C_8H_8O)$ on treatment with NH_2OH. HCl gives B and C. B and C rearrange to give D and E, respectively, on treatment with acid. B, C, D and E are all isomers of molecular formula (C_6H_9NO). When D is boiled with alcoholic KOH, an oil $F(C_6H_7N)$ separates out. F reacts rapidly with CH_3COCl to give back D. On the other hand, E on boiling with alkali followed by acidification gives a white solid $G(C_7H_6O_2)$. G Identify A-G. **(1999)**

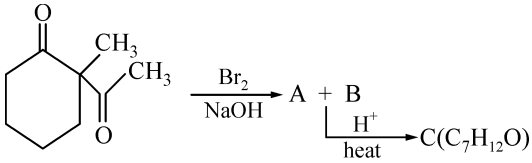
(b) Carry out the following transformation in not more than three steps. 1-butyne $\longrightarrow$ 2-pentanone

55. The appropriate reagent for the following transformation : **(2000)**



(A) Zn(Hg), HCl **(B)** NH_2NH_2, OH^- **(C)** H_2 / Ni **(D)** $NaBH_4$

56. Identify A, B and C, and give their structures. **(2000)**



57. An organic compound A, $C_6H_{10}O$, on reaction with CH_3MgBr followed by acid treatment gives compound B. The compound B on ozonolysis gives compound C, which in presence of a base gives 1-acetylcyclopentene D. The compound B on reaction with HBr gives compound E. Write the structures of A, B, C and E. Show, how D is formed from C. **(2000)**

58. What would be the major product in the following reaction ? **(2000)**